

Patent claims

1. A switching device

5 - with a strip-shaped actuator element consisting of a shape memory alloy, into which a predetermined shape has been impressed at an annealing temperature and which is connected to a movable contact part of a switching contact,

and

10 - with means for heating up the actuator element above a temperature level bringing about an opening of the switching contact on the basis of a change in shape of the actuator element,

characterized by an actuator element (2),

15 a) into which an at least largely extended shape has been impressed at the annealing temperature,

b) which has a curved shape in the operating state in which the switching function is not triggered and

20 c) which rests between its one end (2a), which is held fixed, and its other end (2b), which is facing the movable contact part (4a), on a deflecting element (5) with frictional engagement in such a way that the deflecting element (5) exerts on the concave inner side of the actuator element (2) a counterforce (G) partially counteracting the curving of the latter.

30 2. The device as claimed in claim 1, characterized in that the actuator element (2) rests against the deflecting element (5) approximately in the center between its two ends (2a, 2b).

35 3. The device as claimed in claim 1 or 2, characterized in that the actuator element (2) is part of a current path and can be heated up by an

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overcurrent above the temperature level bringing
about the opening of the switching contact.

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4. The device as claimed in claim 1 or 2, characterized in that an indirect heating-up of the actuator element (2) is provided.

5 5. The device as claimed in one of the preceding claims, characterized in that a restoring spring (18) keeping the actuator element (2) in its curved shape in the operating state is provided.

10 6. The device as claimed in one of the preceding claims, characterized in that the actuator element (2) is connected to the movable contact part electrically by means of a stranded wire (17) and mechanically by means of a switching linkage (14).

15 7. The device as claimed in one of the preceding claims, characterized in that the actuator element consists of a shape memory alloy based on a NiTi or CuAl alloy.

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